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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,444	04/23/2002	Yasuji Hiramatsu	217827US2PCT	4246
22850	7590	12/28/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			FASTOVSKY, LEONID M	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/019,444	HIRAMATSU ET AL.
	Examiner Leonid M Fastovsky	Art Unit 3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 November 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 13, 14 and 17-32 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 13, 14 and 17-32 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 23 April 2002 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20041115,20040924</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13,14, 17, 20, 21 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (6,635,853).

Saito teaches a hot plate unit 1 (Fig. 1-9) comprising a supporting case 2 made out of metal (col. 3, lines 1-3) and including a bottom, a nitride ceramic substrate 9, also an aluminum nitride, a silicon carbide and alumina (col. 3, lines 27-52), a resistance heating element 10 provided on the surface of the substrate 9, and a coolant introducing pipe 17 or 18 disposed at the bottom of the supporting case 2, and wherein plural openings 5, 17 and 18 are formed at the bottom of the supporting case 2.

As for a thickness of parts and their ratio, Sato discloses that the thickness of the ceramic substrate 9 is preferably 3 mm or from 1 mm to 10 mm (col. 3, lines 13-30), the dimension "L" is preferably 7 mm or from 1 to 10 mm (col. 4, lines 3-10). The thickness

of the supporting case 2 is not identified, however, based on fig. 4 and 5, it would be obvious to modify Saito's hot plate so that the ratio, between the substrate and the base of the hot plate , is in a range of 0.02 to 0.2 in order to accommodate guide sleeves 5 and intake and discharge coolant ports 17and 18.

4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Sugaya et al (6,518,548).

Saito teaches substantially the claimed invention, but does not teach a thermocouple. Sugaya shows another hot plate having a thermocouple 15. It would have been obvious to one having ordinary skill in the art to include a thermocouple in Saito's invention in order to provide a substrate temperature control system capable of unifying the temperature of the substrate as taught by Sugaya (Abstract, lines 1-3).

5. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Schaper et al (6,359,264).

Saito teaches substantially the claimed invention, but is silent regarding a diameter of the ceramic substrate and an operating temperature of the hot plate. Schaper discloses a ceramic substrate having from 200 to 300 mm diameter and an operating temperature from 70 to 250 degree C (col. 3, lines 60-67, col. 4, lines 1-5). It would have been obvious to one having ordinary skill in the art to modify Saito's invention to include a ceramic substrate having a diameter 300 mm or more and an operating temperature of 150 degree C or more in order to heat a ceramic substrate rapidly and uniformly as taught by Schaper (col. 3, lines 65-67).

6. Claims 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito in view of Morita et al (6,336,775).

Saito discloses substantially the claimed invention, but does not disclose an intermediate plate with holes and the bottom of the plate having dents.

Morita discloses a thermal treatment apparatus with a heater 120 and, a case 122 and an intermediate plate 118 with holes. It would have been obvious to one having ordinary skill in the art to modify Saito's invention to include an intermediate plate with holes as taught by Morita in order strengthen the structure of the apparatus. As for dents in the bottom of the case, it is common to use dents to relieve strain in the base structure.

As for claims 31-32, Sato discloses the hot plate having a coolant introducing device comprising at least one pipe 17, 18 providing an opening through the bottom of the base 2 and extending towards the ceramic plate 9, and it would be obvious to have the pipe 17, 18 in communication from the bottom to the intermediate bottom plate as taught by Morita.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claim 13, 14 and 17-32 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Leonid M Fastovsky  
Examiner  
Art Unit 3742

lmf

12/22/04

  
ROBIN O. EVANS  
PRIMARY EXAMINER  
12/22/04